



## **ILANCE Internships    Spring / Summer 2024**

University of Tokyo

<https://ilance.cnrs.fr/>

**The Franco-Japanese laboratory, dedicated to the physics of the two infinities, benefits from an exceptional scientific and cultural environment.**

An on-site laboratory in Japan, ILANCE brings together researchers, students, post-docs, engineers and technicians from CNRS and Japanese institutions. The laboratory is made up of French scientists for long-term stays in Japan and Japanese physicists. Individual research grants are awarded for postdoctoral stays or doctoral thesis. The laboratory will also aim to welcome and support French scientists for temporary stays in Japan. Based on the Kashiwa campus in the northeast of the city of Tokyo, the ILANCE laboratory permanently hosts scientists from CNRS laboratories and from four departments of the University of Tokyo namely, ICRR, Kavli IPMU, ICEPP and the School of Science.

### **Cosmological Constraints from Lyman Alpha Forest using Hybrid Effective Field Theory**

Using small scale information found in Lyman Alpha Forest data for cosmological analysis is difficult due to uncertainties in the underlying hydrodynamical physics. One possible way to include this uncertainty accurately is using perturbation theory, in particular hybrid effective field theory approaches. In this project, students will test the ability for hybrid effective field theory to capture variations in small scale physics and apply the framework to simulated and/or real data.

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**ILANCE**

**Director**